

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 01-117017

(43)Date of publication of application : 09.05.1989

(51)Int.Cl.

H01L 21/203

H01L 21/20

(21)Application number : 62-274088

(71)Applicant : FUJITSU LTD

(22)Date of filing : 29.10.1987

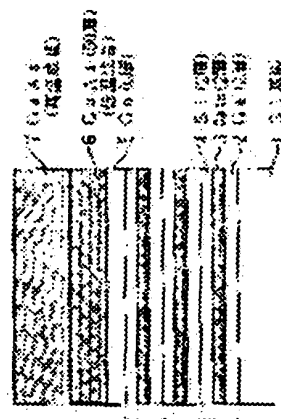
(72)Inventor : OGASAWARA KAZUTO

## (54) GAAS EPITAXIAL GROWTH METHOD ON SI SUBSTRATE

(57)Abstract:

PURPOSE: To realize the epitaxial growth of a GaAs layer without generating defects, by interposing, on an Si substrate, a Ge/GaAs/Si distorted superlattice layer composed of two-atomic layers, and growing a GaAs thin layer at a low temperature.

CONSTITUTION: On an Si substrate 1, a superlattice layer is repeatedly subjected to epitaxial growth by a treating method capable of controlling the growth for every atomic layer. The superlattice layer is composed of a Si layer 4, a GaAs layer 3 on the layer 4, and a Ge layer 2 on the layer 3, each of which has even number of atomic layers. A Ge layer 5 whose number of atomic layer is larger than that of a Ge layer constituting the superlattice layer is subjected to epitaxial growth. A GaAs layer 6 with several tens of atomic layers is subjected to epitaxial growth at a first temperature. A GaAs layer 7 for element formation is subjected to epitaxial growth at a second temperature higher than the first temperature. Thereby enabling the epitaxial growth of a GaAs layer without generating defects.



## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]